

**§ 229.123 Pilots, snowplows, end plates.**

(a) Each lead locomotive shall be equipped with a pilot, snowplow, or end plate that extends across both rails. The minimum clearance above the rail of the pilot, snowplow or end plate shall be 3 inches. Except as provided in paragraph (b) of this section, the maximum clearance shall be 6 inches. When the locomotive is equipped with a combination of the equipment listed in this paragraph, each extending across both rails, only the lowest piece of that equipment must satisfy clearance requirements of this section.

(b) To provide clearance for passing over retarders, locomotives utilized in hump yard or switching service at hump yard locations may have pilot, snowplow, or end plate maximum height of 9 inches.

(1) Each locomotive equipped with a pilot, snowplow, or end plate with clearance above 6 inches shall be prominently stenciled at each end of the locomotive with the words "9-inch Maximum End Plate Height, Yard or Trail Service Only."

(2) When operated in switching service in a leading position, locomotives with a pilot, snowplow, or end plate clearance above 6 inches shall be limited to 10 miles per hour over grade crossings.

(3) Train crews shall be notified in writing of the restrictions on the locomotive, by label or stencil in the cab, or by written operating instruction given to the crew and maintained in the cab of the locomotive.

(4) Pilot, snowplow, or end plate clearance above 6 inches shall be noted in the remarks section of Form FRA 6180-49a.

(5) Locomotives with a pilot, snowplow, or end plate clearance above 6 inches shall not be placed in the lead position when being moved under section § 229.9.

[77 FR 21347, Apr. 9, 2012]

**§ 229.125 Headlights and auxiliary lights.**

(a) Each lead locomotive used in road service shall illuminate its headlight while the locomotive is in use. When illuminated, the headlight shall produce a peak intensity of at least 200,000 can-

dela and produce at least 3,000 candela at an angle of 7.5 degrees and at least 400 candela at an angle of 20 degrees from the centerline of the locomotive when the light is aimed parallel to the tracks. If a locomotive or locomotive consist in road service is regularly required to run backward for any portion of its trip other than to pick up a detached portion of its train or to make terminal movements, it shall also have on its rear a headlight that meets the intensity requirements above. Each headlight shall be aimed to illuminate a person at least 800 feet ahead and in front of the headlight. For purposes of this section, a headlight shall be comprised of either one or two lamps.

(1) If a locomotive is equipped with a single-lamp headlight, the single lamp shall produce a peak intensity of at least 200,000 candela and shall produce at least 3,000 candela at an angle of 7.5 degrees and at least 400 candela at an angle of 20 degrees from the centerline of the locomotive when the light is aimed parallel to the tracks. The following operative lamps meet the standard set forth in this paragraph: a single incandescent PAR-56, 200-watt, 30-volt lamp; a single halogen PAR-56, 200-watt, 30-volt lamp; a single halogen PAR-56, 350-watt, 75-volt lamp, or a single lamp meeting the intensity requirements given above.

(2) If a locomotive is equipped with a dual-lamp headlight, a peak intensity of at least 200,000 candela and at least 3,000 candela at an angle of 7.5 degrees and at least 400 candela at an angle of 20 degrees from the centerline of the locomotive when the light is aimed parallel to the tracks shall be produced by the headlight based either on a single lamp capable of individually producing the required peak intensity or on the candela produced by the headlight with both lamps illuminated. If both lamps are needed to produce the required peak intensity, then both lamps in the headlight shall be operational. The following operative lamps meet the standard set forth in this paragraph (a)(2): A single incandescent PAR-56, 200-watt, 30-volt lamp; a single halogen PAR-56, 200-watt, 30-volt lamp; a single halogen PAR-56, 350-watt, 75-volt lamp; two incandescent PAR-56, 350-watt, 75-volt lamps; or lamp(s)

meeting the intensity requirements given above.

(i) A locomotive equipped with the two incandescent PAR-56, 350-watt, 75 volt lamps which has an en route failure of one lamp in the headlight fixture, may continue in service as a lead locomotive until its next daily inspection required by § 229.21 only if:

(A) Auxiliary lights burn steadily;

(B) Auxiliary lights are aimed horizontally parallel to the longitudinal centerline of the locomotive or aimed to cross no less than 400 feet in front of the locomotive.

(C) Second headlight lamp and both auxiliary lights continue to operate.

(ii) [Reserved]

(b) Each locomotive or locomotive consist used in yard service shall have two headlights, one located on the front of the locomotive or locomotive consist and one on its rear. Each headlight shall produce at least 60,000 candela and shall be arranged to illuminate a person at least 300 feet ahead and in front of the headlight.

(c) Headlights shall be provided with a device to dim the light.

(d) Effective December 31, 1997, each lead locomotive operated at a speed greater than 20 miles per hour over one or more public highway-rail crossings shall be equipped with operative auxiliary lights, in addition to the headlight required by paragraph (a) or (b) of this section. A locomotive equipped on March 6, 1996 with auxiliary lights in conformance with § 229.133 shall be deemed to conform to this section until March 6, 2000. All locomotives in compliance with § 229.133(c) shall be deemed to conform to this section. Auxiliary lights shall be composed as follows:

(1) Two white auxiliary lights shall be placed at the front of the locomotive to form a triangle with the headlight.

(i) The auxiliary lights shall be at least 36 inches above the top of the rail, except on MU locomotives and control cab locomotives where such placement would compromise the integrity of the car body or be otherwise impractical. Auxiliary lights on such MU locomotives and control cab locomotives shall be at least 24 inches above the top of the rail.

(ii) The auxiliary lights shall be spaced at least 36 inches apart if the vertical distance from the headlight to the horizontal axis of the auxiliary lights is 60 inches or more.

(iii) The auxiliary lights shall be spaced at least 60 inches apart if the vertical distance from the headlight to the horizontal axis of the auxiliary lights is less than 60 inches.

(2) Each auxiliary light shall produce a peak intensity of at least 200,000 candela or shall produce at least 3,000 candela at an angle of 7.5 degrees and at least 400 candela at an angle of 20 degrees from the centerline of the locomotive when the light is aimed parallel to the tracks. Any of the following operative lamps meet the standard set forth in this paragraph: an incandescent PAR-56, 200-watt, 30-volt lamp; a halogen PAR-56, 200-watt, 30-volt lamp; a halogen PAR-56, 350-watt, 75-volt lamp; an incandescent PAR-56, 350-watt, 75-volt lamp; or a single lamp having equivalent intensities at the specified angles.

(3) The auxiliary lights shall be aimed horizontally within 15 degrees of the longitudinal centerline of the locomotive.

(e) Auxiliary lights required by paragraph (d) of this section may be arranged

(1) To burn steadily or

(2) Flash on approach to a crossing.

If the auxiliary lights are arranged to flash;

(i) They shall flash alternately at a rate of at least 40 flashes per minute and at most 180 flashes per minute,

(ii) The railroad's operating rules shall set a standard procedure for use of flashing lights at public highway-rail grade crossings, and

(iii) The flashing feature may be activated automatically, but shall be capable of manual activation and deactivation by the locomotive engineer.

(f) Auxiliary lights required by paragraph (d) of this section shall be continuously illuminated immediately prior to and during movement of the locomotive, except as provided by railroad operating rules, timetable or special instructions, unless such exception is disapproved by FRA. A railroad may except use of auxiliary lights at a specific public highway-rail grade crossing

by designating that exception in the railroad's operating rules, timetable, or a special order. Any exception from use of auxiliary lights at a specific public grade crossing can be disapproved for a stated cause by FRA's Associate Administrator for Safety or any one of FRA's Regional Administrators, after investigation by FRA and opportunity for response from the railroad.

(g) Movement of locomotives with defective auxiliary lights.

(1) A lead locomotive with only one failed auxiliary light must be repaired or switched to a trailing position before departure from the place where an initial terminal inspection is required for that train.

(2) A locomotive with only one auxiliary light that has failed after departure from an initial terminal, must be repaired not later than the next calendar inspection required by § 229.21.

(3) A lead locomotive with two failed auxiliary lights may only proceed to the next place where repairs can be made. This movement must be consistent with § 229.9.

(h) Any locomotive subject to Part 229, that was built before December 31, 1948, and that is not used regularly in commuter or intercity passenger service, shall be considered historic equipment and excepted from the requirements of paragraphs (d) through (h) of this section.

[45 FR 21109, Mar. 31, 1980, as amended at 61 FR 8887, Mar. 6, 1996; 68 FR 49717, Aug. 19, 2003; 69 FR 12537, Mar. 16, 2004; 77 FR 21347, Apr. 9, 2012]

#### § 229.127 Cab lights.

(a) Each locomotive shall have cab lights which will provide sufficient illumination for the control instruments, meters, and gauges to enable the engine crew to make accurate readings from their normal positions in the cab. These lights shall be located, constructed, and maintained so that light shines only on those parts requiring illumination and does not interfere with the crew's vision of the track and signals. Each controlling locomotive shall also have a conveniently located light that can be readily turned on and off by the persons operating the locomotive and that provides sufficient il-

lumination for them to read train orders and timetables.

(b) Cab passageways and compartments shall have adequate illumination.

#### § 229.129 Locomotive horn.

(a) Each lead locomotive shall be equipped with a locomotive horn that produces a minimum sound level of 96 dB(A) and a maximum sound level of 110 dB(A) at 100 feet forward of the locomotive in its direction of travel. The locomotive horn shall be arranged so that it can be conveniently operated from the engineer's usual position during operation of the locomotive.

(b)(1) Each locomotive built on or after September 18, 2006 shall be tested in accordance with this section to ensure that the horn installed on such locomotive is in compliance with paragraph (a) of this section. Locomotives built on or after September 18, 2006 may, however, be tested in accordance with an acceptance sampling scheme such that there is a probability of .05 or less of rejecting a lot with a proportion of defectives equal to an AQL of 1% or less, as set forth in 7 CFR part 43.

(2) Each locomotive built before September 18, 2006 shall be tested in accordance with this section before June 24, 2010 to ensure that the horn installed on such locomotive is in compliance with paragraph (a) of this section.

(3) Each remanufactured locomotive, as determined pursuant to § 229.5 of this part, shall be tested in accordance with this section to ensure that the horn installed on such locomotive is in compliance with paragraph (a).

(4)(i) Except as provided in paragraph (b)(4)(ii) of this section, each locomotive equipped with a replacement locomotive horn shall be tested, in accordance with paragraph (c) of this section, before the next two annual tests required by § 229.27 of this part are completed.

(ii) Locomotives that have already been tested individually or through acceptance sampling, in accordance with paragraphs (b)(1), (b)(2), or (b)(3) of this section, shall not be required to undergo sound level testing when equipped with a replacement locomotive horn,